IN THE CLAIMS:

Claims 1-19 (Canceled)

20. (Previously presented) A connection admission control method for use in a communication network including multiple links comprising:

determining the bandwidth needed, for each link, for a requested communication connection;

determining the maximum additional spare bandwidth needed, for each link, for rerouting the requested communication connection in addition to the spare bandwidth needed for rerouting all existing communication connections including the additional traffic rerouted and the traffic removed in the event of a single link failure;

comparing the sum of the bandwidth needed for the requested communication connection and the maximum additional spare bandwidth for the requested communication connection with the available bandwidth for each of the links; and

accepting the communication connection request if sufficient available bandwidth exists for each of the links.

21. (Previously presented) A method as in claim 20 where the communication network is configured using a self-healing ring architecture.

22. (Previously presented) A method as in claim 21 where the self-healing ring employs one of 1:1 path switching, 1:1 line switching, or 1+1 path switching.

23. (Previously presented) A method as in claim 20 where the accepted communication connection comprises a simplex communication.

24. (Previously presented) A method as in claim 20 where the accepted communication connection comprises a duplex connection including multiple simplex communication components, and where bandwidth determining is carried out separately for each simplex component.

25. (Previously presented) A method as in claim 24 where bandwidth comparing is based on the sum of the bandwidth requirements determined for each of the simplex communication components.

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26.   (Previously presented) A method as in claim 20 where the accepted communication connection includes at least one of point-to-point or point-to-multipoint communication connections.

27.   (Previously presented) A method as in claim 20 where the bandwidth requirements are updated in response to accepting a connection or removing a connection.

28.   (Previously presented) A method as in claim 24 where bandwidth requirements for duplex connections are determined by evaluating simplex communication components.

29.   (Previously presented) A method as in claim 20 which is implemented on a distributed basis.

Claims 30-43. (Canceled)

44.   (New) A method as in claim 20 which includes receiving a request for a communication connection.

45.   (New) A connection admission control method for use in a communication network comprising:

receiving a request for a communication connection;

determining the bandwidth needed for the requested communication and the maximum additional spare bandwidth needed and forming a total needed bandwidth for at least selected links:

comparing the total needed bandwidth to available bandwidth for each of the selected links;

responsive to the comparing, if sufficient bandwidth is available for the selected links, accepting the request.

46.   (New) A method as in claim 45 where the request is accepted only in the presence of adequate excess bandwidth to support the connection in at least one failure situation.

47.   (New) A method as in claim 45 which includes adjusting bandwidth requirements when a connection is dropped.

48.   (New) A method as in claim 45 which includes conducting the determining on a distributed basis.

49.   (New)   A method as in claim 45 which includes providing add/drop ports between links.

50.   (New)   A method as in claim 49 which includes transmitting from a source to multiple ports.

51.   (New)   A method as in claim 49 which includes providing at selected ports information as to all links traversed by the requested connection.

52.   (New)   A method as in claim 51 which includes listing the links in a message, or including source and destination ports in the message.